

ATTORNEY DOCKET NO.:
Amdt. Dated 10/30/2006
Response to Office action of 10/13/2006

Application No. 10/802/121

LISTING OF CLAIMS

1. (currently amended): A method for non-destructive testing of a structure, the method comprising the steps of:

depositing induction energy volumetrically below a surface of a composite laminated [[within at least a portion of a volume of a]] structure; and

detecting transient temperatures at [[a]] the surface of the structure caused by diffusion of the volumetrically deposited induction energy with an IR focal plane array.

2. (original): The method for non-destructive testing according to Claim 1, further including the step of automatically analyzing the detected transient temperatures.

3. (original): The method for non-destructive testing according to Claim 2, further including the step of automatically analyzing the detected transient temperatures by a computer processor.

4. (original): The method for non-destructive testing according to Claim 2, further including the step of determining whether a flaw is present in the structure.

5. (original): The method for non-destructive testing according to Claim 4, further including the step of recording a location of one or more detected flaws in a structure.

6. (currently amended): The method for non-destructive testing according to Claim 5, further including the step of providing a user with [[at least one of an auditory or]] a visual indication when a flaw is detected.

7. (currently amended): The method for non-destructive testing according to Claim 1, wherein the
transient temperatures are detected by [[one or more]] a plurality of IR focal plane arrays.

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8. (original): The method for non-destructive testing according to Claim 7, wherein the IR focal plane array is an IR camera.
9. (original): The method for non-destructive testing according to Claim 8, wherein the IR camera is an IR video camera.
10. (cancelled)
11. (cancelled)
12. (original): The method for non-destructive testing according to Claim 1, further including the step of varying frequency of the deposited energy to produce a resonating effect within the structure.
13. (currently amended): The method for non-destructive testing according to Claim 1, wherein the energy deposited includes multiple high and low band energy frequencies.
14. (original): The method for non-destructive testing according to Claim 1, wherein the structure is at least one of a **[[metal,]]** composite metal, carbon fiber, ceramics or fiberglass.
15. (original): The method for non-destructive testing according to Claim 1, wherein the structure is comprised of a metallic portion and a non-metallic portion.
16. (original): The method for non-destructive testing according to Claim 1, wherein the structure is comprised of at least two thermally dissimilar metals.
17. (original): The method for non-destructive testing according to Claim 15, wherein the structure is comprised of a metal, a boron-epoxy skin and a honeycomb panel.

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18. (original): The method for non-destructive testing according to Claim 1, wherein the diffusion of the deposited energy forms a pattern.

19. (original): The method for non-destructive testing according to Claim 18, wherein the pattern has a honeycomb shape.

20. (original): The method for non-destructive testing according to Claim 19, wherein the structure is and airplane wing.

21. (original): The method for non-destructive testing according to Claim 20, wherein the airplane wing is an F-15 airplane wing.

22. – 28. (withdrawn)

29. (cancelled)

30. (currently amended): A method for non-destructive testing of a structure, the method comprising the steps of:

means for injecting induction energy volumetrically within an interior of [within at least a portion of a volume of] a composite laminated structure; and
means for monitoring temperatures at a surface of the structure caused by diffusion of the volumetrically deposited energy.

31. (original): The method for non-destructive testing according to Claim 30, further including means for analyzing the monitored temperatures.

32. (original): The method for non-destructive testing according to Claim 31, further including means for analyzing the monitored temperatures by a computer processor.

33. (original): The method for non-destructive testing according to Claim 30, further including means for determining whether a flaw is present in the structure.

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34. (new): The method for non-destructive testing according to Claim 5, further including the step of providing a user with an auditory indication when a flaw is detected.